

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

CYWEE GROUP LTD.,

Plaintiff

v.

SAMSUNG ELECTRONICS CO. LTD.
AND SAMSUNG ELECTRONICS
AMERICA, INC.,

Defendants.

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NO. 2:17-CV-00140-RWS-RSP

P.R. 4-3 – JOINT CLAIM CONSTRUCTION AND PREHEARING STATEMENT

Pursuant to P.R. 4-3, all parties to the above-captioned action hereby submit their Joint Claim Construction and Prehearing Statement regarding U.S. Patent Nos. 8,441,438 (“’438 Patent”) and 8,552,978 (“’978 Patent”) (“patents-in-suit”).

A. The Construction Of Those Claim Terms On Which The Parties Agree

Pursuant to P.R. 4-3(a), the parties have reached agreement regarding the construction of the following claim terms, phrases, or clauses.

a. ’438 Patent

Claim Term	Agreed Construction
“calculating predicted axial accelerations Ax', Ay', Az' based on the measured angular velocities ω_x , ω_y , ω_z of the current state of the six-axis motion sensor module without using any derivatives of the measured angular velocities ω_x , ω_y , ω_z ” (Claims 14, 19)	Plain and ordinary.
“detecting and generating a first signal set” (Claim 1)	Plain and ordinary.
“detecting and generating a second signal set” (Claim 1)	Plain and ordinary.

Claim Term	Agreed Construction
“resulting deviation comprising resultant angles in said spatial pointer reference frame” “resulting deviation comprising said resultant angles in said spatial pointer reference frame of the 3D pointing device” (Claims 1, 14, 19)	Plain and ordinary.
“the measured state includes a measurement of said second signal set and a predicted measurement obtained based on the first signal set without using any derivatives of the first signal set” (Claim 1)	“the measured state includes a measurement of axial accelerations and predicted axial accelerations calculated using the angular velocities without computing derivatives of said angular velocities (i.e. angular accelerations)”
“spatial pointer reference frame” “spatial pointer reference frame of a three-dimensional (3D) pointing device” “spatial reference frame of the 3D pointing device” (Claims 1, 4, 14, 15, 19)	“frame of reference associated with the 3D pointing device, which always has its origin at the same point in the device and in which the axes are always fixed with respect to the device”

b. '978 Patent

Claim Term	Agreed Construction
“spatial reference frame” “spatial reference frame associated with the 3D pointing device” (Claim 10)	“frame of reference associated with the 3D pointing device, which always has its origin at the same point in the device and in which the axes are always fixed with respect to the device”

B. Each Party's Proposed Construction Of Each Disputed Claim Term

Pursuant to P.R. 4-3(b), the parties have attached a claim chart hereto as Appendix 1, which shows each party's proposed construction of each disputed claim term, phrase, or clause,

together with the intrinsic and extrinsic evidence upon which each party intends to rely to support its proposed constructions.

Where intrinsic and extrinsic citations have been made for a particular claim term, phrase, or clause they should be understood as applicable to each other instance where the same term, phrase, or clause appears elsewhere. Each party reserves the right to rely on any intrinsic or extrinsic evidence identified by the other party. Defendants reserve the right to rely on the positions of CyWee or its expert witnesses concerning claim construction in any other cases, including *CyWee v. Apple*, Case No. C 14-1853 HSG (N.D. Cal.).

C. Anticipated Length Of Time Necessary For Claim Construction Hearing

Pursuant to P.R. 4-3(c), the parties anticipate that they will need a combined total of 3-4 hours for presentation.

D. Witness Testimony At The Claim Construction Hearing

Pursuant to P.R. 4-3(d), Samsung reserves the right to call its expert, Dr. M. Ray Mercer to support Defendants' preliminary claim constructions, including Defendants' indefiniteness challenges, and to respond to any claim construction offered by Plaintiff.

Samsung disagrees with CyWee's objections detailed below. Under P.R. 4-2 and P.R. 4-3, Samsung properly reserved its right to rely on expert testimony regarding certain of the claim terms at issue. P.R. 4-3 does not require the disclosure of an expert declaration, only a detailed disclosure of the substance of the expert's testimony, which Samsung provided in Appendix 1 of this Joint Claim Construction Statement.

Further, CyWee did not raise the issue of the timing for exchanging expert declarations until the date this P.R. 4-3 statement was due. In response, Samsung proposed that the parties exchange declarations on January 26th, weeks before the deadline to complete claim

construction discovery (February 16, 2018) and the deadline for CyWee's opening brief (February 23rd, 2018.) Pursuant to this proposal, Samsung will serve its expert declaration on CyWee on January 26th.

Pursuant to P.R. 4-3(d), CyWee reserves the right to call its expert, Dr. Joseph LaViola to support Plaintiff's claim constructions, and to rebut Defendant's claim constructions and allegations of indefiniteness. CyWee also reserves the right to have Dr. LaViola answer any questions the Court may have regarding the technical tutorial in this case.

As a related matter, CyWee objects to Samsung's failure to provide an expert declaration on or before the date of this statement, and explicitly reserves the right to (1) move to strike any such declaration, (2) submit a responsive declaration, and/or (3) modify CyWee's current expert declaration accordingly.

CyWee further notes that Samsung has the burden of proof of establishing indefiniteness by clear and convincing evidence. Accordingly, CyWee expressly reserves the right to submit a responsive declaration and/or modify its current declaration in response to Samsung's arguments and/or testimony regarding indefiniteness.

E. Other Issues For A Prehearing Conference Prior To The Claim Construction Hearing

Pursuant to P.R. 4-3(e), the parties are unaware of any other issues that would be appropriate for a prehearing conference.

DATED: January 12, 2018

Respectfully submitted,

/s/ Ari Rafilson

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INC.

CERTIFICATE OF SERVICE

The undersigned certifies that all counsel of record who are deemed to have consented to electronic service are being served with a copy of this document via the Court's CM/ECF system per Local Rule CV-5(a)(3) on January 12, 2018.

/s/ Ari Rafilson

P.R. 4-3 Joint Claim Construction and Prehearing Statement
Appendix 1

'438 Patent

Claim Term	Plaintiff	Defendants
<p>1. “utilizing a comparison to compare the first signal set with the second signal set”</p> <p>(Claim 1)</p>	<p>“determining or assessing differences based on a previous state associated with the first signal set and a measured state associated with the second signal set while calculating deviation angles”</p>	<p>This claim term is indefinite because it does not inform those skilled in the art about the scope of the invention with reasonable certainty. This is so even with the aid of the specification and prosecution history. For example, this element recites “utilizing a comparison to compare the first signal set with the second signal set.” The asserted claims recite that the first signal set comprises angular velocities and the second signal set comprises axial accelerations. The patent does not define the term “axial accelerations.” As CyWee has stated, accelerometers cannot distinguish between different types of acceleration (e.g., linear, centrifugal, gravitational), rendering the scope of the invention not reasonably certain as of the time of the invention.</p> <p>In addition, there is additional uncertainty about how the limitation to compare “axial accelerations” with angular velocities is satisfied, including uncertainty regarding the value of variables necessary for the comparison, to the extent that the signal sets could be compared. Due to these deficiencies, those skilled in the art would not be able to determine</p>

Claim Term	Plaintiff	Defendants
		<p>with reasonable certainty the scope of this claim limitation.</p> <p><u>Intrinsic Evidence</u> '438 Patent, Abstract, Figs. 7, 8, cols. 1:16–27; 4:20–30; 6:4–27; 8:19–59; 9:47–10:8; 10:42–14:34</p> <p><u>Extrinsic Evidence</u> CyWee’s Objections and Responses to Samsung’s Second Set of Interrogatories, including at 8–14.</p> <p>As set forth in its P.R. 4-2 disclosures, Defendants intend to rely on a sworn declaration and testimony of Dr. M. Ray Mercer to explain the technology, the state of the art at the time of the '438 Patent application was filed, the level of ordinary skill in the relevant art, and the meaning of this claim element to a person of ordinary skill in the art at the time of the alleged invention, including whether a person of ordinary skill in the art could discern the boundaries of this claim element with reasonable certainty, including as disclosed above.</p> <p>Defendants may also rely on Dr. Mercer to respond to Plaintiff’s claim construction positions and any testimony of Plaintiff’s expert witnesses.</p>

Claim Term	Plaintiff	Defendants
		Upon Plaintiff's request, Dr. Mercer will be made available to be deposed on this subject.
<p>2. "comparing the second quaternion in relation to the measured angular velocities ω_x, ω_y, ω_z of the current state at current time T with the measured axial accelerations A_x, A_y, A_z and the predicted axial accelerations A_x', A_y', A_z' also at current time T"</p> <p>(Claims 14 and 19)</p>	<p>This term need not be construed. In the alternative, this term may be construed as follows:</p> <p>"comparing the second quaternion in relation to the measured angular velocities ω_x, ω_y, ω_z of the current state at current time T with the measured axial accelerations A_x, A_y, A_z and the predicted axial accelerations A_x', A_y', A_z' also at current time T"</p>	<p>This claim term is indefinite because it does not inform those skilled in the art about the scope of the invention with reasonable certainty. This is so even with the aid of the specification and prosecution history. For example, this element recites "comparing the second quaternion in relation to the measured angular velocities ω_x, ω_y, ω_z of the current state at current time T with the measured axial accelerations A_x, A_y, A_z and the predicted axial accelerations A_x', A_y', A_z' also at current time T." The patent does not define the term "axial accelerations." As CyWee has stated, accelerometers cannot distinguish between different types of acceleration (e.g., linear, centrifugal, gravitational), rendering the scope of the invention not reasonably certain as of the time of the invention.</p> <p>In addition, there is additional uncertainty about how the limitation to compare a second quaternion in relation to measured angular velocities with measured and predicted axial accelerations is satisfied, including uncertainty regarding the value of variables necessary for the comparison (including the "predicted axial acceleration"), to the extent that this comparison can be done. Due to these deficiencies, those skilled in the art would not be able to determine</p>

Claim Term	Plaintiff	Defendants
		<p>with reasonable certainty the scope of this claim limitation.</p> <p><u>Intrinsic Evidence</u> '438 Patent, Abstract, Figs. 7, 8, cols. 1:16–27; 4:20–30; 6:4–27; 8:19–59; 9:47–10:8; 10:42–14:34</p> <p><u>Extrinsic Evidence</u> CyWee’s Objections and Responses to Samsung’s Second Set of Interrogatories, including at 8–14</p> <p>As set forth in its P.R. 4-2 disclosures, Defendants intend to rely on a sworn declaration and testimony of Dr. M. Ray Mercer to explain the technology, the state of the art at the time of the '438 Patent application was filed, the level of ordinary skill in the relevant art, and the meaning of this claim element to a person of ordinary skill in the art at the time of the alleged invention, including whether a person of ordinary skill in the art could discern the boundaries of this claim element with reasonable certainty, including as disclosed above.</p> <p>Defendants may also rely on Dr. Mercer to respond to Plaintiff’s claim construction positions and any testimony of Plaintiff’s expert witnesses .</p>

Claim Term	Plaintiff	Defendants
		Upon Plaintiff's request, Dr. Mercer will be made available to be deposed on this subject.
<p>3. "three-dimensional (3D) pointing device"</p> <p>"3D pointing device"</p> <p>(Claims 1, 3, 4, 5, 14, 15, 16, 17, 19)</p>	<p>This term need not be construed. In the alternative, this term may be construed as follows:</p> <p>"a handheld device that uses at least a rotation sensor comprising one or more gyroscopes, and one or more accelerometers to determine deviation angles or the orientation of a device."</p>	<p>"a device that detects the motion of the device in three-dimensions and translates the detected motions to control the movement of a cursor or pointer on a display"</p> <p><u>Intrinsic Evidence</u></p> <p>'438 Patent, Abstract, Figs. 1, 2, 3, 5, 9, cols. 1:15–2:37, 16:16–17:47</p> <p>'978 Patent, Abstract, Figs. 1, 2, 3, 5, 9, cols. 1:21–2:40, 3:53–4:11; 20:49–22:8; 22:34–40; 23:8–17; 47–58; 26:40–45; 35:30–38</p> <p><u>Extrinsic Evidence</u></p> <p>The New Oxford American Dictionary (2001), including at 1318</p> <p>The American Heritage Dictionary of the English Language (4th Edition) (2000), including at 1355</p> <p>Defendants may also rely on a sworn declaration from Dr. M. Ray Mercer to respond to Plaintiff's claim construction positions and any testimony of Plaintiff's expert witnesses</p>
<p>4. "six-axis motion sensor"</p> <p>(Claims 1, 5, 14, 15, 16, 17, 19)</p>	<p>This term need not be construed. In the alternative, this term may be construed as follows:</p>	<p>"a module consisting of two types of sensors: (i) a rotation sensor and (ii) one of more accelerometers"</p>

Claim Term	Plaintiff	Defendants
	<p>“a rotation sensor comprising one or more gyroscopes for collectively generating three angular velocities and one or more accelerometers for collectively generating three axial accelerations where said gyroscope(s) and accelerometer(s) are mounted on a common PCB.”</p>	<p><u>Intrinsic Evidence</u></p> <p>’438 Patent, Figs. 3, 4, 5, 6, cols. 7:26–55; 7:56–8:18; 9:7–27; 10:9–29</p> <p>’978 Patent File History, January 28, 2013 Non-Final Rejection, including at 2–3; April 17, 2013 Response, including at 2–3, 9–10</p> <p>Defendants may also rely on a sworn declaration from Dr. M. Ray Mercer to respond to Plaintiff’s claim construction positions and any testimony of Plaintiff’s expert witnesses</p>

’978 Patent

Claim Term	Plaintiff	Defendants
<p>1. “generating the orientation output based on the first signal set, the second signal set and the rotation output or based on the first signal set and the second signal set”</p> <p>(Claim 10)</p>	<p>This term need not be construed. In the alternative, this term may be construed as follows:</p> <p>“generating the orientation/deviation angle output based on (1) the first signal set (from an accelerometer), the second signal set (from a magnetometer) and the rotation output (from a rotation sensor or gyroscope) or (2) the first signal set (from an accelerometer) and the second signal set (from a magnetometer)”</p>	<p>This claim term is indefinite because it does not inform those skilled in the art about the scope of the invention with reasonable certainty. This is so even with the aid of the specification and prosecution history. For example, this element recites “generating the orientation output based on the first signal set, the second signal set and the rotation output or based on the first signal set and the second signal set” The asserted claims recite that the first signal set comprises “axial accelerations,” the second signal set comprises “magnetisms,” and the rotation output is “associated with a rotation of the 3D pointing device.” The patent does not define the term</p>

Claim Term	Plaintiff	Defendants
		<p>“axial accelerations.” As CyWee has stated, accelerometers cannot distinguish between different types of acceleration (e.g., linear, centrifugal, gravitational), rendering the scope of the invention not reasonably certain as of the time of the invention.</p> <p>In addition, there is additional uncertainty about how the limitation to generate the orientation output based on either “axial accelerations,” magnetisms and a rotation output or “axial accelerations” and magnetisms was satisfied, including uncertainty regarding the value of variables necessary for this calculation, to the extent that this calculation can be done. Due to these deficiencies, those skilled in the art would not be able to determine with reasonable certainty the scope of this claim limitation.</p> <p><u>Intrinsic Evidence</u> ‘978 Patent, Figs. 4, 10–13, cols. 4:15–44; 5:45–6:27; 6:46–7:4; 9:57–10:30; 10:50–11:30; 22:9–30:50</p> <p><u>Extrinsic Evidence</u> CyWee’s Objections and Responses to Samsung’s Second Set of Interrogatories, including at 8–14</p> <p>As set forth in its P.R. 4-2 disclosures, Defendants intend to rely on a sworn declaration</p>

Claim Term	Plaintiff	Defendants
		<p>and testimony of Dr. M. Ray Mercer to explain the technology, the state of the art at the time of the '978 Patent application was filed, the level of ordinary skill in the relevant art, and the meaning of this claim element to a person of ordinary skill in the art at the time of the alleged invention, including whether a person of ordinary skill in the art could discern the boundaries of this claim element with reasonable certainty, including as disclosed above.</p> <p>Defendants may also rely on Dr. Mercer to respond to Plaintiff's claim construction positions and any testimony of Plaintiff's expert witnesses identified in CyWee's P.R. 4-2 disclosures.</p> <p>Upon Plaintiff's request, Dr. Mercer will be made available to be deposed on this subject.</p>
<p>2. "3D pointing device" (Claim 10)</p>	<p>This term need not be construed. In the alternative, this term may be construed as follows:</p> <p>"a handheld device that includes at least one or more accelerometers and a magnetometer, and optionally a rotation sensor comprising one or more gyroscopes, and uses them to determine deviation angles or the orientation of a device"</p>	<p>"a device that detects the motion of the device in three-dimensions and translates the detected motions to control the movement of a cursor or pointer on a display"</p> <p><u>Intrinsic Evidence</u> '978 Patent, Abstract, Figs. 1, 2, 3, 5, 9, cols. 1:21–2:40, 3:53–4:11; 20:49–22:8; 22:34–40; 23:8–17; 47–58; 26:40–45; 35:30–38</p> <p><u>Extrinsic Evidence</u></p>

Claim Term	Plaintiff	Defendants
		<p>The New Oxford American Dictionary (2001), including at 1318</p> <p>The American Heritage Dictionary of the English Language (4th Edition) (2000), including at 1355</p> <p>Defendants may also rely on a sworn declaration from Dr. M. Ray Mercer to respond to Plaintiff's claim construction positions and any testimony of Plaintiff's expert witnesses</p>
<p>3. "global reference frame associated with Earth"</p> <p>(Claim 10)</p>	<p>This term need not be construed. In the alternative, this term may be construed as follows:</p> <p>"reference frame with axes defined with respect to Earth"</p>	<p>"an Earth-centered coordinate system with an origin and a set of three coordinate axes defined with respect to Earth"</p> <p><u>Intrinsic Evidence</u></p> <p>'978 Patent, Abstract, cols. 7:55–67; 8:1–12; 32:4–30; 33:29–51; 34:25–28; 34:39–51</p> <p>'438 Patent File History, March 3, 2013 Response, including at 10–11</p> <p><u>Extrinsic Evidence</u></p> <p>Principles of GNSS, Inertial and Multisensor Integrated Navigation Systems (2008), including at 19–20</p> <p>Defendants may also rely on a sworn declaration from Dr. M. Ray Mercer to respond to Plaintiff's claim construction positions and any testimony of Plaintiff's expert witnesses</p>

Claim Term	Plaintiff	Defendants
<p>4. “using the orientation output and the rotation output to generate a transformed output associated with a fixed reference frame associated with a display device”</p> <p>(Claim 10)</p>	<p>“using the orientation output and the rotation output to generate a transformed output represented by 2-dimensional movement in a fixed reference frame that is parallel to the screen of a display device”</p>	<p>“using the orientation output and the rotation output to generate a transformed output representing a two-dimensional movement in a fixed reference frame that is parallel to the screen of the display device”</p> <p><u>Intrinsic Evidence</u> ‘978 Patent, Abstract, Figs. 1, 2, 8, 9, 11, 13, cols. 5:11–45; 7:55–67; 8:1–12; 11:31–43; 19:61–20:24; 31:50–32:3; 33:4–19</p> <p><u>Extrinsic Evidence</u> Defendants may also rely on a sworn declaration from Dr. M. Ray Mercer to respond to Plaintiff’s claim construction positions and any testimony of Plaintiff’s expert witnesses</p>